281

GEOGRAPHIC INTELLIGENCE REVIEW

Number 59



CIA/RR MR 59-3 September 1959

CONTENTS

Railroads of Poland	•	•	•	•	•	1
Motorability of Rumanian Roads		٠	•		•	Ę
Variant Spellings of Rumanian Place Names .	•	•	•	•	•	13
West German-Belgian Boundary Settlement .					•	15
New Atlas of the Soviet Republic of Belorussia			·			19

CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

HANGE IN CLASS. []

DECLASSIFIED CLASS. CHANGED TO: TS S C

Approved For Release 2000/04/17: CIA-RDP79-01005A000300100002-0

WARNING

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

Approved For Release 2000/04/17 : CIA_REP-9-01005A000300100002-0

GEOGRAPHIC INTELLIGENCE REVIEW

Number 59

CIA/RR MR 59-3

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports



CONTENTS*

	Page
Railroads of Poland	1
Motorability of Rumanian Roads	. 5
Variant Spellings of Rumanian Place Names	13
West German-Belgian Boundary Settlement	15
New Atlas of the Soviet Republic of Belorussia	19
Maps	•
	Following Page
Poland: Railroads, July 1959 (27054)	3
Rumania: Road Motorability (27662)	11
Rumania: Place Name Reference Map, 1958 (27592)	14
West Garmon Balgian Boundamy Boatifications (27067)	17

^{*} The individual classification of each article in this Review is given at the end of the article.

RAILROADS OF POLAND

The railway system of Poland is of considerable international importance because it furnishes the main routes through the only broad, unobstructed land passage between the USSR and Western Europe. The railroads are also of some importance as routes between Baltic ports and the more southerly satellite countries of Eastern Europe. Locally, they are the chief means of transport serving a nation of some 30 million people.

The accompanying Map 27054 reflects a part of Polish history in that the fairly dense western and northern network, in former German territory, contrasts sharply with the relatively sparse track pattern in areas that were Russian until 1918. Changes in international boundaries have required many changes in the railroads of present-day Poland. Lines have been abandoned; new links have been built to adjust track patterns to current boundaries; former secondary lines have been rebuilt into high-capacity main lines; and new gauge interchange points have been established. Despite considerable postwar construction and redevelopment, however, the railroad system of Poland is still not entirely suited to the needs of the country. On the whole, railroads are oriented toward past sovereignty patterns, rather than current ones. For example, Wroczaw (former German Breslau) in southwestern Poland has good connections to the west and south, but poor ones to

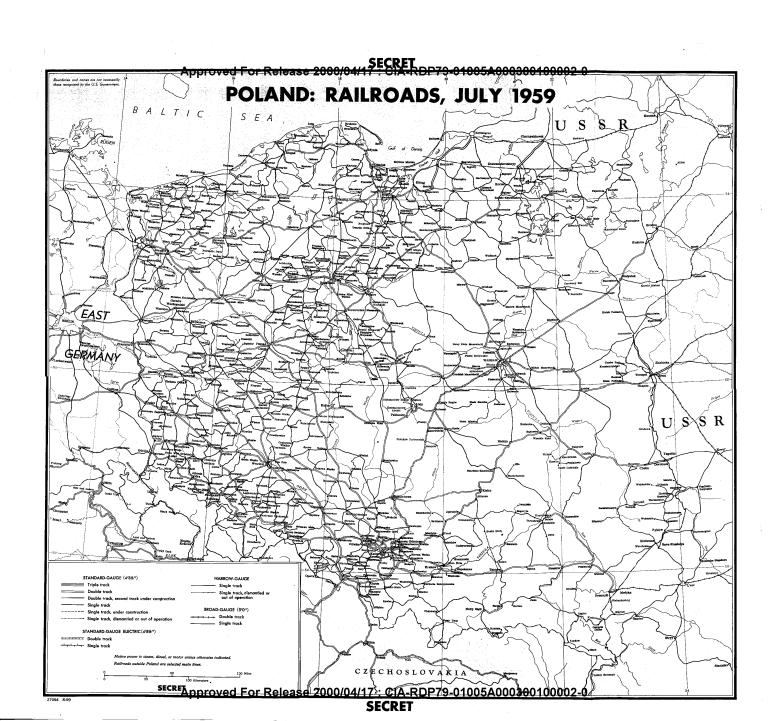
the heart of the country. Good direct routes from north to south are scarce and, in the east, feeder lines are inadequate. Polish efforts to correct the north-south deficiency have been adversely affected by Soviet strategic interests that call for improvement of east-west lines connecting Germany with the USSR, via Poland. The longest new postwar line (the Muków-Skierniewice line south of Warsaw) is an east-west railroad primarily serving Soviet strategic requirements, whereas a new north-south line would have been of greater economic value to Poland.

Recently, some progress has been made toward improving the capacity of main north-south lines, chiefly through electrification and double tracking. Electrification of the Kraków-Katowice-Częstochowa-Warsaw route was completed in 1959. The line running northeast of Warsaw eventually will be electrified as far as Nasielsk but, apparently, electrification of the stretch from Nasielsk to Tczew (near Gdańsk) is not planned. Present plans call for electrification of the Katowice-Kalety-Zduńska Wola-Bydgoszcz-Gdańsk line in the period 1960-62. The Katowice-Kepno-Poznań-Szczecin line, already double tracked, is to be electrified 1963-65.

The change from Soviet broad gauge to Polish standard gauge, which necessitates cargo transfer or a change of "bogies" at points all along the Poland-USSR frontier, is a significant hindrance to rail transport between the USSR and Germany via Poland. The vulnerability of the transshipment points, and, indeed, the whole rail

system of eastern Poland, is accentuated by a paucity of rerouting possibilities. Sustained attacks on transloading stations would materially restrict the interchange of traffic. Also vulnerable are the large number of river crossings in Poland. As was proved during World War II, the destruction of bridges over the Vistula and Oder-Niesse Rivers, in particular, can seriously disrupt east-west traffic.

Map 27054 depicts the Polish railroad net as of July 1959. The map is essentially a revision of part of Map 12336, Railroads of Eastern Europe-1952, originally published in 1953. Although the scale is too small to show alignment in detail, Map 27054 fills a need for up-to-date coverage of the main features of the Polish railroad system. Correction data for the map were drawn from the 1958/59 edition of the Polish State Railways timetable, press releases, recently published maps, and a wide range of intelligence reports. These are the best available sources. In general, however, source materials on the railroads of Poland leave much to be desired since there are few current maps that show alignment and trackage correctly, and official Polish sources have a tendency to report lines that are merely planned or under construction as operational. (CONFIDENTIAL)



MOTORABILITY OF RUMANIAN ROADS

A long-standing gap in intelligence on Rumanian roads has been lessened considerably by the recent acquisition of a new Rumanian map and a series of reliable intelligence documents. In 1958, the Rumanian National Tourist Office, Carpați, published a map of Rumania at a scale of 1:1,000,000 that shows the basic highway network. Although necessarily generalized at this scale, the network appears to be complete for the three categories of roads shown:

(1) national, (2) regiune (1st-order administrative division), and

(3) raion (2nd-order administrative division). Intelligence documents received during 1957 and 1958 provide detailed first-hand observations on motorability for most of the national and several of the regiune highways. Motorability data from these documents have been overprinted on the Carpați tourist map and the resultant map issued as CIA 27662, Rumania: Road Motorability.

The data presented on the CIA map (following page 11) have been organized according to five categories adapted from the official Rumanian standards used to determine consumption norms for motor-vehicle fuel, lubricants, and tires. Motorability categories are as follows:

- 1. Asphalt- or concrete-paved roads in good condition
- 2. Roads paved with stone blocks or graveled roads in good condition

Approved For Release 2000/04/17: CIA-RDP79-01005A000300100002-0

S-E-C-R-E-T

- 3. Asphalt or graveled roads in poor condition (with holes) and dirt roads in good condition, which require changes of gear or reduced speed on 20 percent of the route
- 4. Graveled roads in bad condition, which require changes of gear or reduced speed on 40 percent of the route; and dirt roads in poor condition, the bad parts of which comprise 50 percent of the total route
- 5. Roads in extremely bad condition -- jeepable, but generally not passable by passenger cars

Since motorability data are not available for all the roads, Map 27662 is intended in part for use as a worksheet for recording additional data. The map is so designed that as further reports on progress in road modernization are received, an analyst can easily convert the map symbols for motorability categories 2, 3, 4, and 5 to symbols for higher categories.

Roads in Rumania are also classified by type of administration as national highways, <u>regiune</u> highways, <u>raion</u> highways, <u>comunual</u> (3rd-order administrative division) roads, industrial and agricultural roads, or streets. The classifications are defined as follows:

- a. National highways or routes (N.R.) are those roads which connect Bucharest and the regiune capitals with one another and with the important economic or industrial centers, ports, health resorts, and tourist centers of the country.
- b. Regiune highways are those which connect the capital of each regiune with neighboring regiune capitals, with the raion administrative centers, and with economic or industrial centers, health and tourist resorts within the regiune; and connect the raion centers with one another.

- c. Raion highways are those highways other than national or regiune highways which connect the raion centers with each other; connect each raion center with the other towns or centers of economic importance within the raion; and ensure traffic to civil airports.
- d. Comuna roads are those roads of local interest, not belonging to any of the above categories, which connect the comuna centers and villages with one another, with the railroad stations, and with the national, regiune and raion highways, and with industrial and agricultural centers.
- e. Industrial or agricultural roads serve the transport requirements of individual enterprises and economic organizations.
- f. Public roads within towns and villages are classified as streets.

In a speech delivered on 26 November 1958, Gheorghiu-Dej (First Secretary of the Communist Party in Rumania) stated that the road network totalled 76,000 kilometers (47,225 miles). An analysis of available intelligence data on the road network, however, indicates that less than half of this total mileage can be considered as all-weather roads, and only about one-eighth as roads in the first, or highest, category of motorability. Most of the raion and comuna roads are little more than dirt tracks suitable only for animal-drawn vehicles. Motor-vehicle traffic is confined primarily to the national highways, which comprise 9,700 kilometers of the total network, although regiune highways are also used to some extent. Approximately 2,500 kilometers of the national highways are paved with asphalt or concrete and are in good condition. The remaining national-highway mileage

consists of roads paved with stone blocks or of graveled roads, generally falling within motorability category 2 or 3. Although little information is available concerning regiume highways, they appear to be either graveled or dirt roads within the 3 to 5 motorability range.

At the end of World War II, some 1,200 kilometers of national highway were paved with asphalt or concrete. The remaining 1,300 kilometers included in motorability category 1 have been paved since 1947 as part of the State road-modernization program set forth in successive Five-Year Plans. Although little information is available concerning the specifications established for this program, the completed roads reportedly have either asphalt or concrete surfaces 7 meters (23 feet) wide. All overhead installations crossing the road have a minimum vertical clearance of 4.5 meters (approximately 15 feet); and bridges have roadways at least 7 meters wide and a gross-load capacity of approximately 25 tons.*

The present network of asphalt- and concrete-paved highways consists essentially of the following national routes (N.R.): (1) the Oradea-Cluj-Orașu Stalin-Bucharest-Giurgiu highway (N.R. 1 and 5), which crosses the country diagonally from northwest to southeast

^{*} An unconfirmed report indicates that bridges on so-called strategic routes are to be constructed according to Soviet specifications as to capacity -- 60 tons for tracked vehicles and 13 tons for wheeled vehicles. Assuming that the 13 tons refers to axle load, these specifications would be compatible with a gross-load capacity of 25 tons.

connecting important centers of the western plains region and Transylvania with Bucharest and which serves as an international road link between the northern tier of Satellites and Rumania and Bulgaria; (2) the north-south Bucharest-Buzau-Bacau-Roman highway (N.R. 2) and its Bacau-Bicaz branch (N.R. 15), which connect the principal economic centers of western Moldavia with Bucharest; (3) the Ploesti-Buzau-Braila-Galati connecting highway (N.R. 1/B and 2/B), which funnels traffic from National Routes 1 and 2 to the main Danubian ports of Braila and Galați; (4) a series of short highways that radiate outward from Bucharest, connecting it with the important agricultural and petroleum centers of Muntenia and also serving as the initial segments of projected modern highways that will link Bucharest with the Dobrogea (N.R. 2/A and 3), Oltenia (N.R. 6), and the Banat (N.R. 6); (5) the Baia Mare-Cluj branch of National Route 1 (N.R. 1/C), which connects the Baia Mare Basin with Transylvania and Bucharest; (6) highways within Dobrogea that now serve local industrial and agricultural needs and those which are planned as links with N.R. 2/A and 3 from Bucharest; and (7) numerous completed segments of main highways now under construction, such as sections of the Orsova-Timisoara-Satu Mare-USSR Border highway (N.R. 69, 79, and 19), the Orașu Stalin-Brețcu-Bacău-Iasi-USSR Border highway (N.R. 11 and 28), and the Sebes-Deva-Arad branch of National Route 1. The segments of these highways which have not as yet been modernized are, nevertheless, serviceable within the limitations of motorability categories 2 and 3.

The expansion of the basic network of national highways has been retarded in part by the difficulties and expense involved in constructing and maintaining roads through rugged mountain terrain and by the necessity of constructing innumerable bridges on highways crossing the lowland regions. At present, for example, National Route 1 is the only highway of motorability category 1 that crosses the Carpathian Mountain Range; no first-class east-west highway crosses the Wallachian Plain -- one of the richest agricultural regions of the country; nor is there a single highway bridge across the lower Danube linking Wallachia and the Dobrogea. The emerging pattern of new and projected modern highways is clearly in general conformity with the alignment of the principal topographic features of the country. The initial goal of the road-modernization program appears to be the completion of (1) an outer belt highway along the periphery of the Carpathian Arc, which will link the main centers of Moldavia, Wallachia, and the western plains region; (2) an inner belt ringing the Transylvanian Basin; and (3) a limited number of radial highways extending from the inner belt through the mountains via natural routes and thence across the lowlands to the important ports and international border crossing points. In the event of war, this highway network as planned would be of strategic importance to the USSR for movement through Rumania westward into Central Europe and southward to the Balkans and the Turkish straits. At the same time, the network would be highly vulnerable to interdiction because

of the few natural passes through the mountains and the large number of highway bridges in the lowland areas.

Until the initial phase of the road-modernization plan is completed, the commercial movement of freight and passengers by motor vehicles in Rumania will probably continue to be small in comparison with the movement by railroad, even though the number of automotive vehicles and amount of automotive traffic are continually increasing. At present the commercial movement of freight by truck is limited primarily to short hauls that supplement railroad transport, particularly in areas where no railroad lines exist or where connections between parallel railroad lines can be made by truck. Animal-drawn vehicles still outnumber motor vehicles on most highways. In all of the agricultural regions of the country, wagon traffic is heavy; the volume is particularly high on the Wallachian Plain and in northern Moldavia. Once the modernization of the skeletal network of national highways has been completed, emphasis will undoubtedly be shifted to improvement of local regiune, raion and comună roads. If the pace of recent progress continues, the present road system, which developed through serving the needs of a backward peasant economy, may eventually be transformed into a highway network suited to the requirements of a mechanized era. (CONFIDENTIAL)



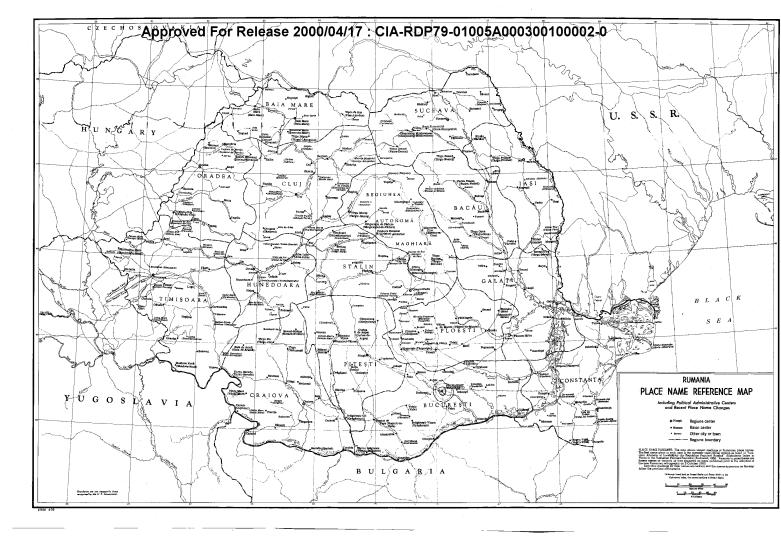
VARIANT SPELLINGS OF RUMANIAN PLACE NAMES

Now that the official Rumanian regulations on orthography that were introduced in 1953 have been in use for several years, the initial confusion regarding the application of the new spelling rules to geographic names has been largely dispelled. With very few exceptions, the spellings of geographic names used on official Rumanian maps and publications conform to the spellings given in the 1956 edition of Indicator Alfabetic al Localitatilor din Republica Populara Romîna (Alphabetic Index to Rumanian Localities).* Since many of the reports and maps on Rumania that are of intelligence value stem from nonofficial Rumanian sources, however, the spelling of geographic names in materials received here is still not uniform. Many nonofficial sources both in Rumania and outside prefer to use names based on the old orthography, and sources frequently differ in the practice of using the definite article with geographic names, particularly for names of geographic features such as rivers. Since the definite article is enclitic in Rumanian, variant spellings result when the article is used by one source and not by another -- for example, Mures and Muresul (the Mures). Several pre-World War II place names have been changed to new names honoring Communist heroes or important events -- for example,

^{*} This volume, published by Editura Stiintifica (Scientific Publishing House) in Bucharest, supersedes the 1954 edition which was reviewed in CIA/RR-MR-47, August 1955.

Carmen-Sylva changed to Vasile Roaită. Finally, an additional complicating factor is the local usage by minority groups of their "national forms" for geographic names. In extensive areas of Transylvania and the Banat, the inhabitants of Hungarian and German extraction refer to localities by the names applied to them in the period when these areas formed part of the Austro-Hungarian Empire. For example, the Hungarian name for Timișoara is Temesvár, and the German name for Orasul Stalin is Kronstadt.

With so many possible variants, it is often difficult to decide whether names with slightly different spellings mentioned in separate reports actually refer to one and the same place or to two different places. CIA Map 27592, Rumania: Place Name Reference Map, 1958, which indicates alternate spellings and name changes for the more important places commonly appearing in intelligence reports on Rumania, was compiled as a research aid to help remedy this situation. In each case, the first name given on the map is the official Rumanian version as listed in Indicator Alfabetic al Localităților din Republica Populară Romînă (1956 edition). The names shown in parentheses are variant spellings of the official name or, in some cases, former Rumanian names that have been changed by official decree. No attempt was made to include the innumerable "national forms" for geographic names since these forms seldom appear in current reporting. (UNCLASSIFIED)



WEST GERMAN-BELGIAN BOUNDARY SETTLEMENT*

On 24 September 1956, a treaty between the Federal Republic of Germany (West Germany) and Belgium concerning boundary adjustments and related matters was signed in Brussels, Belgium, by representatives of both countries. The final ratification of the treaty did not occur until 13 August 1958, when ratification documents were exchanged between the Foreign Ministers of the Federal Republic of Germany and Belgium in Bonn, Germany. By the provisions of the treaty, the agreement became effective 15 days after this exchange. Although the treaty thus fixes the border definitively and adjusts other mutual questions resulting from the war and occupation, it is not a peace treaty such as may be signed by the government of a reunited Germany.

At the end of World War II, various claims to German territory were advanced by neighboring countries, but at that time no definitive cessions were made because the Allies were unable to come to an agreement with the Soviet Union on a German Peace Treaty.

At the London Conference (June 1948), it was decided that there should be a preliminary examination of the western frontier question

^{*} Two articles entitled Provisional Rectification in the Western Boundaries of Germany, Part I (MR-20, November 1950) and Part II (MR-24, March 1951), provide background information on the provisions of the post-World War II West German-Belgian frontier adjustments.

and that minor proposals for provisional adjustments should be submitted to the governments of Belgium, France, Luxembourg, Netherlands, the U.K., and the U.S. -- all of which were represented at the conference. Ten months later, in April 1949, the Council of Foreign Ministers allowed the provisional transfer to Belgium of enclaves totaling 11-1/2 square miles along the frontier, but the Belgians took possession of only 7 parcels of territory having a total area of less than 8 square miles. Approximately 500 persons lived in the area. Thus from the start, the relationship of Belgium with its defeated neighbor to the east assumed a conciliatory nature and one which permitted further adjustments. The provisional border areas remained under Belgian administration until the recent Belgo-German boundary settlement, which finally rectified the winding frontiers.

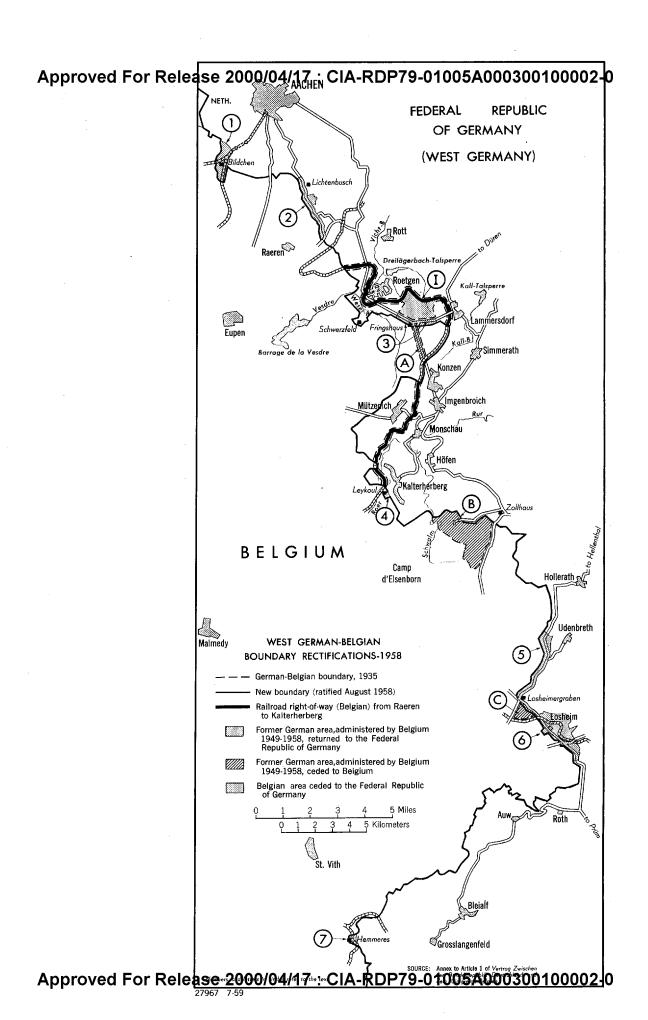
The frontier rectifications fall into three categories: (1) former German areas returned to Germany; (2) former German areas retained by Belgium; and (3) former Belgian territory ceded to the Federal Republic of Germany (see Map 27967). The rectifications are intended to establish a more realistic boundary line between Belgium and West Germany, eliminating irregularities in local administration and facilitating traffic arrangements and customs services. For example, border clearance, border control, and related problems along the section of railroad between Raeren and Kalterherberg, which remains under Belgian sovereignty but traverses German territory, were resolved to the mutual satisfaction of both parties. At the same

time, all negotiations were conducted on the principle that the inhabitants of an area should not be forced to change their nationality.

With these goals in mind Belgium returned to Germany the village of Bildchen, near Aachen (1)*; a part of Leykoul hamlet, as well as the area along Breitenbach Creek (4); the villages of Losheim (6) and Hemmeres (7); and the forests of Freyen, south of Lichtenbusch (2) and those at Büllinger (5) -- all of which had been provisionally granted to Belgium in 1949. Belgium also renounced administrative authority over a section of the Raeren road south of Lichtenbusch (2) and two stretches of the highway from Roetgen (Rötgen) to Fringshaus and on to Lammersdorf (3). On the other hand, the highway from Fringshaus to Konzen (A) and the forests of Wahlerscheid (B) and Losheimergraben (C) -- all former German areas -- were retained by Belgium. One area (I), between the Roetgen-Fringshaus-Lammersdorf highway and the tracks of the Raeren-Kalterherberg railroad, was ceded to the Federal Republic of Germany by Belgium.

Allied governments regard the treaty as an important contribution to the cause of European friendship. Its significance to the Federal Republic can be ascertained from the remarks of West German Chancellor Konrad Adenauer, who thanked the Belgian Government for "opening the door of Germany into the concert of nations." (CONFIDENTIAL)

^{*} All numbers and letters in parentheses correspond to the numbers and letters that indicate the rectifications shown on Map 27967, West German-Belgian Boundary Rectifications.



NEW ATLAS OF THE SOVIET REPUBLIC OF BELORUSSIA

Respubliki*, which covers one of the republics comprising the Soviet Union, represents the first Soviet postwar endeavor to produce a regional atlas. If precedent is followed, it may well be the first of a series of atlases covering all 15 of the Soviet Republics. The comprehensive collection of maps and supporting data was published in Minsk and Moscow in 1958 by the Belorussian Academy of Sciences in collaboration with the Chief Administration of Geodesy and Cartography (GUGK), MVD. Among the other contributors are a number of Belorussian scientific, economic, and educational establishments, including the Academy of Agricultural Sciences, the Belorussian Branch of the Geographic Society of the USSR, the Lenin State University, the Planning Commission (Gosplan), and the Hydro-meteorological Service. The actual cartographic work was performed by the Minsk Cartographic Factory.

The atlas consists of a short introduction followed by 140 pages of maps and supporting graphs, tables, and profiles. The introduction tends to summarize the physical characteristics of the Republic and emphasizes its economic growth by using comparisons of the basic data

^{*} The abbreviated form, Atlas BSSR, appears on the cover. CIA Map Library Call No. aG 223.U53, 1958.

of 1913 and/or 1940 with that of 1957. The atlas itself is divided into three basic parts: (1) a 100-page section that provides a wide range of detailed political-administrative, demographic, physical, climatic, economic, cultural, and medical data on the Belorussian SSR as a whole; (2) a 29-page section of political-administrative, physical, and economic maps for each of the 7 oblasts of the republic; and (3) a group of 9 historic maps that trace political, social, and military developments in the area from the ninth century through World War II.

The first section is particularly significant because it includes much information not available elsewhere, either in map or textual form. About 85 pages are devoted to the climate and economy of Belorussia. Of these, approximately half are climatic maps and graphs covering such useful subjects as average monthly and yearly temperatures; average monthly and yearly precipitation, dates of first and last frosts, duration of the frost-free period, dates of formation and disappearance of persistent snow cover, and depth (presumably maximum) of snow cover, depth of frozen soil both under and in the absence of snow cover, and prevailing January and July winds. The economic maps fall mainly into two categories -- industrial and agricultural. The industrial maps and supporting statistical data are focused on such specialized industries as peat cutting, production of construction materials, machine building and metal working, wood processing and paper manufacturing, food processing, and hydroelectric-power production. The agricultural maps show the distribution of agricultural production,

ploughed land, pastureland, state farms, machine-tractor stations, repair stations, and amelioration (principally swamp drainage) stations; the degree of mechanization employed in sowing and harvesting grain and industrial crops; extent of electrification of agriculture by kolkhozes; and the distribution of grain crops (rye, wheat, corn, oats), industrial crops (flax, hemp, sugar beets, tobacco), potatoes and other vegetables, fruits and berries, and domestic animals (cattle, pigs, and sheep).

Although fewer in number, the physical and cultural maps of the republic as a whole provide much interesting information. Noteworthy among the physical maps are those showing density and depth of the dissection of the terrain, magnetic anomalies, and various tectonic processes. The cultural maps show, in addition to population density, the number and distribution of schools, scientific establishments, hospital beds, sanitoriums and rest homes, houses of culture, clubs, libraries, and theaters.

The atlas is based on information ranging from late 1955 to mid-1958. The oblast and rayon boundaries on political-administrative maps are as of 1 August 1958. Statistical data provided in the various tables, graphs, and profiles are from 1957 preliminary information provided by the Statistical Directorate of the Belorussian Republic. Economic and cultural maps are based on data as of January 1956, the beginning of the Sixth Five-Year Plan. For specialized agricultural maps the sources go back to 1 October 1955.

Except for an introductory map of the USSR at 1:25,000,000, map scales used throughout the atlas range from 1:1,000,000 to 1:8,000,000. The maps of the Belorussian Republic as a whole are at 3 standard scales -- 1:2,500,000, 1:4,000,000, and 1:5,000,000 -- except for the climatic maps of average monthly rainfall and temperatures, which are at 1:8,000,000. Two standard scales are used for individual oblast maps -- 1:1,000,000 for political-administrative maps and 1:500,000 for physical and economic maps.

A rich assortment of interpretive legends, tables, graphs, and profiles appear on the maps or adjoining pages. This information not only aids the user in interpreting the maps but also provides supplementary data that could not be presented with equal clarity on the maps. The supplementary materials include data on long-range trends in production by oblasts or rayons as percentages of the Belorussian total, the percentage of specified crops harvested from different types of land, and profiles of peat deposits and soil types.

The atlas is a remarkably compact, complete, and up-to-date work. Its major shortcomings are the lack of adequate map coverage for transportation (rail trackage and gauge, bus routes, and pipelines), and the direction, volume, and nature of commodity movements. Although the atlas covers important details of the physical characteristics of the area and includes a map of magnetic anomalies, it is significant that no map of gravity anomalies is included even though it is known that the Republic has been covered by gravity surveys. Following

Soviet practice, no information on religious denominations in the area is included. From an intelligence point of view, however, the volume is still a unique and valuable addition to previously available research and reference tools on the economic and physical geography of the Belorussian SSR. (UNCIASSIFIED)